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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,338	06/14/1999	GUILLERMO J. ROZAS	TRANS11	2806

7590 05/20/2004

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EXAMINER

NGUYEN, DUSTIN

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 05/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/332,338

Applicant(s)

ROZAS ET AL.

Examiner

Dustin Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37-52 and 71-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-52, 71-79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 37-52, 71-79 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 37-52 and 71-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. [US Patent No 5,519,841], in view of Konigsburg et al. [Us Patent No 5,931,957].

4. As per claim 37, Sager discloses the invention substantially as claimed including a method of scheduling and executing instructions comprising:

a) accessing a sequence of instructions [col 5, lines 31-33] comprising:

a first memory operation that involves a first address range [col 48, lines 15-16];

a second memory operation that involves at least a portion of said first address range [col 48, lines 45-46]; and

third memory operation intervening said first and second memory operations [i.e. reorder] [col 48, lines 18-36], wherein it is not known whether said third memory operation involves an address within said first address range [Abstract], wherein at least one of said first through third memory operations comprises a store operation [col 48, lines 13-22]; and

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d) determining, during said executing, if said third memory operation involves an address within said first address range [col 37, lines 66-col 38, lines 42].

Sager does not specifically disclose

b) eliminating said second memory operation from said sequence of instructions;

c) executing said sequence of instructions with said second memory operation eliminated.

Konigsburg discloses

b) eliminating said second memory operation from said sequence of instructions [i.e. flushed] [col 3, lines 28-38; and col 12, lines 38-42];

c) executing said sequence of instructions with said second memory operation eliminated [Abstract].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Sager and Konigsburg because Konigsburg's teaching of eliminating instructions would allow to detect certain situations where an out-of-order load or store operation will result in invalid data occurring [Konigsburg, col 3, lines 1-3].

5. As per claim 38, Sager discloses prior to said executing said sequence of instructions, adding information to said third memory operation to allow determination of said first address range [i.e. tagging] [Abstract].

6. As per claim 39, Sager discloses a mask allowing determination of which of a plurality of registers hold protected addresses [col 26, lines 27-52; and col 42, lines 11-14].

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7. As per claim 40, Sager discloses determining, during said executing, if said third memory operation involves an address within a range of any of said protected addresses [col 48, lines 24-36].

8. As per claim 41, Sager discloses storing a memory address associated with said first address range in one of said plurality of registers prior to said executing said sequence of instructions [col 2, lines 44-56].

9. As per claim 42, it is rejected for similar reasons as stated above in claim 41.

10. As per claim 43, Sager does not specifically disclose
said sequence of instructions comprises a fourth memory operation that is in said
sequence of instructions after said first memory operation; and
further comprising adding information to said fourth memory operation that allows said
fourth memory operation to execute without exception even if said fourth memory operation
involves said first address range.

Konigsburg discloses
said sequence of instructions comprises a fourth memory operation that is in said
sequence of instructions after said first memory operation [col 2, lines 1-10]; and
further comprising adding information to said fourth memory operation that allows said
fourth memory operation to execute without exception even if said fourth memory operation
involves said first address range [col 6, lines 48-61].

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It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Sager and Konigsburg because Konigsburg's teaching would reorder instructions dynamically to increase system performance.

11. As per claim 44, Sager discloses first and second memory operations would be safely reducible to a single memory operation if said third memory operation were not intervening [i.e. bypass] [col 33, lines 9-37].

12. As per claim 45, it is rejected for similar reasons as stated above in claim 37. Furthermore, Konigsburg discloses the instructions are the combination of loads and stores instructions [Abstract; and col 7, lines 13-20]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Sager and Konigsburg because Konigsburg's teaching would load and store instructions to execute correctly without system corruption.

13. As per claim 46, it is rejected for similar reasons as stated above in claims 39 and 41.

14. As per claim 47, it is rejected for similar reasons as stated above in claim 38.

15. As per claim 48, Sager discloses changing said first load instruction to a load and protect instruction [col 7, lines 30-60].

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16. As per claims 49-52, 71-74 and 75-78, they are rejected for similar reasons as stated above in claims 45-48.

17. As per claim 79, it is rejected for similar reasons as stated above in claim 37.

18. Applicant's arguments with respect to claims 37-52 and 71-79 have been considered but are moot in view of the new ground(s) of rejection.

19. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (703) 305-5321. The examiner can normally be reached on Monday – Friday (8:00 – 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directly to the receptionist whose telephone number is (703) 305-3900.

Dustin Nguyen


JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100